Quality controls accompanying processing

2K products

Customer: _____

Production day: _____

Adhesive / cleaner / primer
Adhesive: *Manufacturer: OTTO-CHEMIE* **Adhesive type:** _____
Charge no. comp. A: _____ **Charge no. comp. B:** _____
To be processed up to: _____
Cleaner substrate A: *Hersteller:* _____ **Type:** _____
Cleaner substrate B: *Hersteller:* _____ **Type:** _____

Adhesive testing

Description	Target	Each time the mixing plant is commissioned[1]	Each time the container is exchanged[1]	Each time the mixing plant is checked[1]
Pot life	See TDB			
Glass plate test or butterfly test	No smearing			
Mixing ratio by weight A : B	See TDB			
Shore A	See earliest value in TDB[2]			
Shore A after 24 hours	See TDB[2]			
Adhesion test (peel test) after 24 hours, substrate A	Cohesion break Area in percent (>= 90 %)			
Adhesion test (peel test) after 24 hours, substrate B	Cohesion fracture Area in percent (>= 90 %)			

1 side-by-side cartridges 490 ml: With each batch change

2 tolerance range requires agreement with OTTO-CHEMIE

OTTO-CHEMIE must be informed immediately in the event of any deviation in these values.
The tests must be documented by the processor and archived for at least 12 months.

Date: _____ Signature: _____

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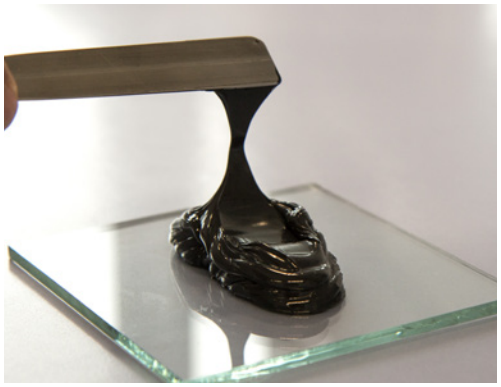
1. Determining the pot life

The correct mixing ratio or the perfect curing speed is checked by determining the pot life.
This is done by applying mixed 2K silicone to a PE film or glass. A spatula is used to “spread” the paste. The paste is soft at the start and becomes increasingly tougher as it begins to harden. When the paste shows a reset, the end of the pot life has been reached. Since the pot life is influenced by factors including the ambient temperature and humidity, this may result in fluctuations between the individual measurements.

2. Glass plate test or butterfly test

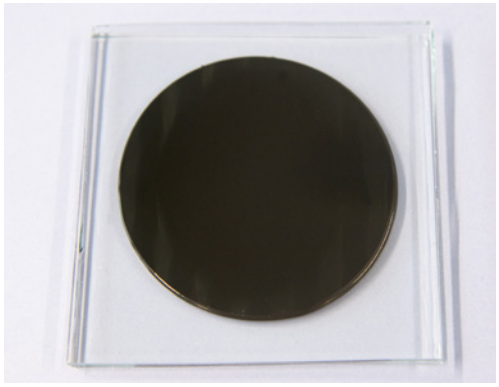


Paste-like consistency, spreadable
-> Pot life has not yet been reached

“Chewing gum” consistency, the sealant “Pulls back”
->Pot life has been reached

This test serves to ensure the perfect homogeneity of the mixture.
During the glass plate test, a small quantity of mixed adhesive is applied to a clean glass (dimensions approx. 10 x 10 cm). A second piece of glass is then placed on top and the two glasses are pressed together. The adhesive between the glasses must have a uniform, homogeneous colour. When processing from side-by-side cartridges, fine white stripes are tolerable.

Glass plate test – Expected mixing pattern during cartridge processing



Glass plate test – Mixing pattern to be expected when processing using a mixing and dosing system

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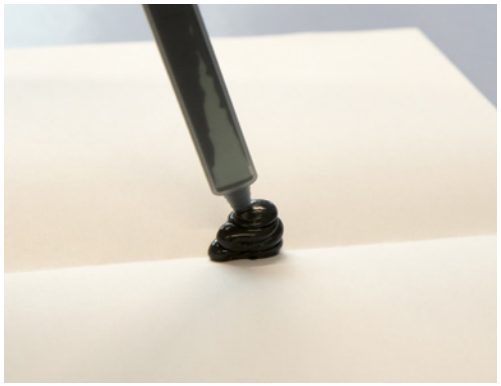
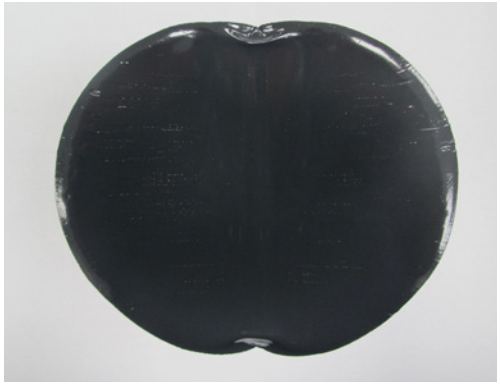
The butterfly test runs in a similar way. Here a small quantity of mixed adhesive is applied to a white sheet of paper or PE film, the paper/film is folded and then unfolded. As with the glass plate test, check the mixture for streaks or smears.



Apply sealant

Fold paper

Pull paper apart - Expected mixing pattern during cartridge processing



Mixing pattern to be expected when processing using a mixing and dosing system

-> Check for homogeneous mixing of the two components!
Fine white streaks in the mixture are tolerable when processed from side-by-side cartridges.

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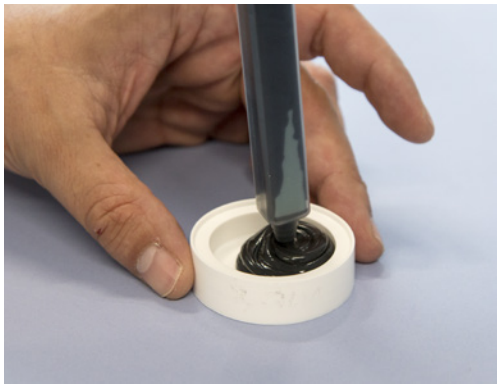
3. Determining the Shore-A hardness according to DIN EN ISO 868 (determination of the indentation hardness with a durometer) or DIN 53505

The perfect condition of the vulcanisates can be assessed by measuring the Shore-A hardness.
You require a plastic ring or a plastic lid as an aid (e.g. a bottle) with an inner diameter of at least 15 mm and a depth of at least 6 mm. Fill the ring or the upside-down lid with the adhesive without air bubbles and smooth over the surface with a spatula.
The Shore A hardness is tested with a special hardness tester after the adhesive has cured (see specifications in the protocol or technical data sheet).



Insert sealant

Pull sealant off smoothly

-> Measuring the Shore A hardness with a durometer

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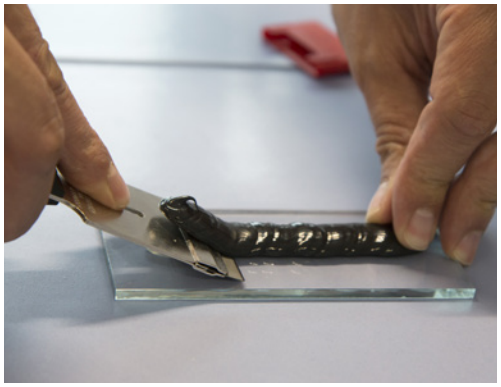
4. Adhesion test (peel test) after 24 hours

The peel test checks the perfect adhesion of the adhesive to the substrates to be bonded.
A strip of adhesive approx. 10 x 10 mm wide or thicker should be applied to the substrates pre-treated in accordance with the specifications in the technical data sheet of the 2-component adhesive. A length of 10 cm is sufficient for the adhesive strip. After a curing time of 24 hours, cut the adhesive on one side with a knife and attempt to pull the adhesive off the substrate by hand at an angle of > 90°.

Applying the adhesive



Cutting between adhesive and glass pane

-> Pull off the adhesive bead and assess the fracture pattern If there is a cohesion break in the adhesive, the adhesion to the substrate is perfect